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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,699	03/07/2007	Anders Thornell-Pers	48586.830041.US0	3693

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EXAMINER

KARACSONY, ROBERT

ART UNIT	PAPER NUMBER
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2821

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,699	Applicant(s) THORNELL-PERS, ANDERS	
	Examiner ROBERT KARACSONY	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/21/2006, 05/09/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on May 09, 2006 and June 21, 2006 is being considered by the examiner.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claims 1, 3, 4, 9 and 10 are objected to because of the following informalities:
5. Claims 1 and 10: In line 4, claim 1, for clarity purposes, please replace "feed device (RF)" with --radio frequency feed device--. The same applies to claim 10.
6. Claims 3 and 4: In line 3, claim 3, please replace "said at least a first and a second frequency bands" with --said at least first and second frequency bands--. The same applies to claim 4.
7. Claim 9: In line 2, claim 9, for grammatical reasons, please replace "provided integrated" with --integrated--.
8. Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by *Rowell* (WO 01/20718, hereinafter *Rowell*).

Claims 1 and 10: *Rowell* (figs. 4 and 5) teaches an antenna device for a portable radio communication device operable in at least a first and a second frequency band, the antenna device comprising:

a first electrically conductive radiating element (421) having a feeding portion (440) connectable to a radio frequency feed device of the radio communication device and a grounding portion (450) connectable to a ground device;

a second electrically conductive radiating element (422);

a controllable switch (460) arranged between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input (V_{switch});

characterized by a filter (503 and 504) comprising a pure resistance (503) arranged between the second radiating element and the control voltage input (V_{switch}), wherein the filter is arranged to block radio frequency signals.

Claim 2: *Rowell* teaches the switch comprises a PIN diode (page 8, lines 13).

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Claim 3: *Rowell* teaches the filter is a low pass filter (503 and 504) blocking signals at frequencies equal to and higher than the lower frequency band of said at least first and second frequency bands.

Claim 4: *Rowell* teaches the filter is a band stop filter (501 and 504) blocking signals in both a lower and a higher frequency band of said at least first and second frequency bands.

Claim 5: *Rowell* teaches the first radiating element has a configuration that provides for more than one resonance frequency (page 6, lines 27-28).

Claim 6: *Rowell* teaches at least one of the first and second radiating elements comprises a protruding portion (portion of '422' that switch '460' is in contact with), and wherein the switch is connected to the protruding portion.

Claim 7: *Rowell* teaches a generally planar printed circuit board (page 7, lines 23-24), wherein the first and second radiating elements and the switch are arranged generally parallel to and spaced apart from the printed circuit board.

Claim 9: *Rowell* teaches the filter is provided integrated with the second radiating element (fig. 4).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Rowell*.

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Claim 8: *Rowell* teaches all of the limitations of claim 1, as discussed above, however, fails to teach the antenna device has a volume less than 3cm^3 . However, it is well known to the skilled artisan at the time of the invention that the dimensions of an antenna is dependent on the frequency at which the antenna resonates. A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the volume of the antenna device of *Rowell* less than 3cm^3 , with a reasonable expectation of success, since the dimensions of an antenna is dependent on the frequency at which the antenna resonates.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- *Toshihiro* (JP 2000-236209) teaches multi-band antenna that varies its resonant length by switching between metal pieces to lengthen or shorten the length of the antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT KARACSONY whose telephone number is (571)270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./

Examiner, Art Unit 2821

/Douglas W Owens/

Supervisory Patent Examiner, Art Unit 2821

February 14, 2009